List of the claims:

1.   (currently amended) A method of generating information for controlling power consumption of a device, the method comprising:

(a)   performing an off-line optimization analysis comprising optimization experiments to optimize based on a quality of service measure and power consumption of the device, and based on a plurality of control factors for controlling the device;

(b)   performing a variance analysis on results from said optimization experiments;

(c)   generating, from results of the optimization experiments, first data relating each of the plurality of control factors to the quality of service measure and second data relating each of the plurality of control factors to power consumption of the device; and

(d)   generating a power management profile relating the quality of service measure and the power consumption of the device based on results of the variance analysis, said first data and said second data optimization experiment.

2.   (currently amended) The method of claim 1, wherein (a) performing comprises performing the optimization analysis is a fractional factorial style experiment.

3.   (currently amended) The method of claim 1, wherein (a) performing comprises performing the optimization analysis is a full factorial style experiment.

4.   (currently amended) The method of claim 1, wherein (a) performing comprises performing the optimization analysis is one of a Design of Experiments (DOE) experiment, an Orthogonal Array experiment, a Latin Square Design experiment, and a Taguchi style experiment.

5.   (original) The method of claim 1, further comprising selecting one of the plurality of control factors based on the power management profile, wherein the selected control factor is adjusted to control power consumption of the device.

6.   (currently amended) The method of claim 5, wherein (d) generating comprises ~~the power management profile is generated by~~ filtering results of the optimization analysis.

7.   (currently amended) The method of claim 6, wherein selecting comprising selecting one of the plurality of ~~the selected~~ control ~~factor~~ factors ~~is selected~~ by using the power management profile to determine a power consumption level corresponding to a selected quality of service level, determining a result of the optimization analysis corresponding to the determined power consumption level and selected quality of service level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

8.   (currently amended) The method of claim 6, wherein selecting comprises selecting one of the plurality of ~~the selected~~ control factors ~~factor is selected~~ by using the power management profile to determine a quality of service level corresponding to a selected power consumption level, determining a result of the optimization analysis corresponding to the determined quality of service level and selected power consumption level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

9.   (currently amended) A method of generating information for controlling a device, the method comprising:

(a)   performing an off-line optimization analysis comprising optimization experiments to optimize ~~based on~~ a quality of service measure and an operating condition of the device~~, and a~~ based on plurality of control factors for controlling the device;

(b)   performing a variance analysis on results from said optimization experiments;

(c)   generating, from results of the optimization experiments, first data relating each of the plurality of control factors to the quality of service measure and second data relating each of the plurality of control factors to the operating condition of the device; and

(d)   generating a management profile relating the quality of service measure and the operating condition of the device based on results of the variance analysis, said first data and said second data optimization experiment.

10.   (currently amended) The method of claim 9, wherein (a) performing comprises performing the optimization analysis is a fractional factorial style experiment.

11.   (currently amended) The method of claim 9, wherein (a) performing comprises performing the optimization analysis is a full factorial style experiment.

12.   (currently amended) The method of claim 9, wherein (a) performing comprises performing the optimization analysis is one of a Design of Experiments (DOE) experiment, an Orthogonal Array experiment, a Latin Square Design experiment, and a Taguchi style experiment.

13.   (original) The method of claim 9, further comprising selecting one of the plurality of control factors based on the management profile, wherein the selected control factor is adjusted to control the operating condition of the device.

14.   (currently amended) The method of claim 13, wherein (d) generating comprises the power management profile is generated by filtering results of the optimization analysis.

15.   (currently amended) The method of claim 14, wherein selecting comprising selecting one of the plurality of the selected control factor factors is selected by using the management profile to determine a level of the operating condition corresponding to a selected quality of service level, determining a result of the optimization experiment corresponding to the determined level of the operating condition and selected quality of service level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

16.   (currently amended) The method of claim 14, wherein selecting comprises selecting one of the plurality of the selected control factors factor is selected

by using the management profile to determine a quality of service level corresponding to a selected operating <u>condition</u> level, determining a result of the optimization analysis corresponding to the determined quality of service level and selected operating <u>condition</u> level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

17.   (currently amended) An apparatus suitable for adaptively controlling a system, the apparatus comprising:

an optimization unit configured <u>to</u> perform an <u>off-line</u> optimization analysis <u>comprising optimization experiments to optimize</u> ~~based on~~ a quality of service <u>measure</u> and an operating condition of the system<u>,</u> ~~and~~ <u>based on</u> a plurality of control factors for controlling the system<u>, wherein the optimization unit performs a variance analysis on results from said optimization experiments and generates, from the results of said optimization experiments, first data relating each of the plurality of control factors to the quality of service measure and second data relating each of the plurality of control factors to the operating condition of the device</u>;

~~an~~ <u>a</u> management unit configured to generate a management profile relating the quality of service and the operating condition of the system based on results of the <u>variance analysis, said first data and said second data</u> ~~optimization analysis~~; and

a performance table storage unit configured to store the management profile generated by the management unit.

18.   (currently amended) The apparatus of claim 17, wherein the optimization <u>unit performs said optimization</u> analysis ~~is performed~~ based further on a user profile containing information concerning a user's preferences for operating the system.

19.   (currently amended) The apparatus of claim 17, wherein the optimization <u>unit performs said optimization</u> analysis ~~is performed~~ based further on a pattern of usage of the system.

20.   (currently amended) The apparatus of claim 17, further comprising a control ~~interface~~ unit configured to adaptively control the system based on the ~~updated~~ management profile.

21.   (currently amended) The apparatus of claim 17, wherein the ~~system~~ control unit is configured to select one of the plurality of control factors based on the management profile~~, and wherein the selected control factor is adjusted~~ to control the operating condition of the system.

22.   (currently amended) The apparatus of claim 17, <u>wherein said optimization unit performs said optimization analysis on power consumption of the system as said</u> operating condition ~~of the system is the power consumption of the system~~.

23.   (new) The apparatus of claim 21, wherein said control unit selects one of the plurality of control factors by using the management profile to determine a level of the operating condition corresponding to a selected quality of service level, determining a result of the optimization experiment corresponding to the determined level of the operating condition and selected quality of service level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

24.   (new) The apparatus of claim 21, wherein said control unit selects one of the plurality of control factors by using the management profile to determine a quality of service level corresponding to a selected operating level, determining a result of the optimization analysis corresponding to the determined quality of service level and selected operating level, and determining as the selected control factor a control factor corresponding to said determined result of the optimization analysis.

25.   (new) The apparatus of claim 17, wherein said optimization unit performs said optimization analysis using one of Design of Experiments (DOE) experiment, an Orthogonal Array experiment, a Latin Square Design experiment, and a Taguchi style experiment.